	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition	Errors
1	BRS	L1	13257	lectin	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/27 12:55			0
2	BRS	L2	15	korean adj mistletoe	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/27 12:55			0
3	BRS	L3	5	1 same 2	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/27 12:59			0
4	BRS	L4	15	viscum adj album adj coloratum	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/27 13:00			0
5	BRS	L5	6	1 same 4	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/27 13:07			0
6	BRS	L6	1	kml-iiu or kml-iil	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/27 13:07			0
7	BRS	L7	1	61.8 adj kda	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/27 13:08			0
8	BRS	L8	2	56.4 adj kda	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/27 13:09			0

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition	Errors
9	BRS	L9	0	(7 or 8) same 1	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/27 13:09			0
10	BRS	L10	1	kim adj jongbae.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/27 13:09			0
11	BRS	L11	1	song adj seongkyu.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/27 13:10			0
12	BRS	L12	1	suh adj byungsun.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/27 13:11			0
13	BRS	L13	1	lee adj kwanee.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/27 13:11			0
14	BRS	L14	1	doo adj myoungsool.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/27 13:11			0
15	BRS	L15	1	kwak adj jinhwan.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/27 13:12			0
16	BRS	L16	1	song adj byeoungdoo.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/27 13:13			0

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition	Errors
17	BRS	L17	1	yoon adj taekjoon.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/27 13:13			0
18	BRS	L18	1	kang adj taebong.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/27 13:14			0
19	BRS	L19	1	park adj choonho.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/27 13:14			0
20	BRS	L20	1	10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/27 13:15			0

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FILE 'AGRICOLA' ENTERED AT 13:19:22 ON 27 MAR 2003

=> s lectin
L1       148687 LECTIN

=> s korean mistletoe
L2          114 KOREAN MISTLETOE

=> s viscum album coloratum
L3           53 VISCUM ALBUM COLORATUM

=> s l2 or l3
L4          121 L2 OR L3

=> s l1 (p) l4
L5           92 L1 (P) L4

=> s antitumor or anticancer or cytotoxic or antineoplastic
L6       981504 ANTITUMOR OR ANTICANCER OR CYTOTOXIC OR ANTINEOPLASTIC

=> s l5 (p) l6
L7           58 L5 (P) L6

=> duplicate remove l7
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PROCESSING COMPLETED FOR L7
L8           19 DUPLICATE REMOVE L7 (39 DUPLICATES REMOVED)

=> d l8 1-19 ibib abs

L8   ANSWER 1 OF 19  CAPLUS  COPYRIGHT 2003 ACS
ACCESSION NUMBER:         2003:79643  CAPLUS
TITLE:                    Antitumor activities of extract of Viscum album var.
                          coloratum modified with Viscum album var. coloratum
                          agglutinin
AUTHOR(S):                Lyu, Su Yun; Rhim, Jee Young; Moon, You Sun; Jung,
                          Seung Hee; Lee, Kyue Yim; Park, Won Bong
CORPORATE SOURCE:         College of Natural Sciences, Seoul Women's University,
                          Seoul, 139-774, S. Korea
SOURCE:                   Natural Product Sciences (2002), 8(4), 155-161
                          CODEN: NPSCFB; ISSN: 1226-3907
PUBLISHER:                Korean Society of Pharmacognosy
DOCUMENT TYPE:            Journal
LANGUAGE:                 English
AB   The mistletoe   ***lectins***   are major active components in the ext. of
```

European mistletoe (Viscum album L) that have been widely used in adjuvant chemotherapy of cancer. This study was performed to investigate the ***antitumor*** activity of ext. of ***Korean*** ***mistletoe*** (Viscum album var. coloratum) modified with ***Korean*** ***mistletoe*** ***lectin*** (Viscum album var. coloratum agglutinin, VCA). Compared with the results of VCA, survival rate was increased and exptl. lung metastasis was reduced by treatment of modified ext. (VCM). In addn., the treatment of VCM reduced angiogenesis and VCA-induced toxicity measured by a CAM assay. And VCM inhibited proliferation and induced apoptosis in vitro in tumor cells originated from tissues which are possible to apply topically without surgery. Taken together, the ***antitumor*** activities of VCM-treated group outperformed the activities of the VCA-treated group.

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 2 OF 19 MEDLINE DUPLICATE 1

ACCESSION NUMBER: 2002154263 MEDLINE
DOCUMENT NUMBER: 21882499 PubMed ID: 11885700
TITLE: Korean mistletoe lectin-induced apoptosis in hepatocarcinoma cells is associated with inhibition of telomerase via mitochondrial controlled pathway independent of p53.
AUTHOR: Lyu Su Yun; Choi Sang Ho; Park Won Bong
CORPORATE SOURCE: College of Natural Sciences, Seoul Women's University, Seoul, Korea.
SOURCE: ARCHIVES OF PHARMACAL RESEARCH, (2002 Feb) 25 (1) 93-101. Journal code: 8000036. ISSN: 0253-6269.
PUB. COUNTRY: Korea (South)
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200208
ENTRY DATE: Entered STN: 20020312
Last Updated on STN: 20021217
Entered Medline: 20020829

AB The extract of European mistletoe (Viscum album, L) has been used in adjuvant chemotherapy of cancer and mistletoe ***lectins*** are considered to be major active components. The present work was performed to investigate the effects of ***Korean*** ***mistletoe*** ***lectin*** (Viscum album L. coloratum agglutinin, VCA) on proliferation and apoptosis of human hepatoma cells as well as the underlying mechamisms for these effects. We showed that VCA induced apoptosis in both SK-Hep-1 (p53-positive) and Hep 3B (p53-negative) cells through p53- and p21-independent pathways. VCA induced apoptosis by down-regulation of Bcl-2 and by up-regulation of Bax functioning upstream of caspase-3 in both cell lines. In addition, we observed down-regulation of telomerase activity in both VCA-treated cells. Our results provide direct evidence of the anti-tumor potential of this biological response which comes from inhibition of telomerase and consequent inducing apoptosis. VCA-induced apoptosis is regulated by mitochondrial controlled pathway independently of p53. These findings are important for the therapy with preparation of mistletoe because they show that telomerase-dependent mechanism can be targeted by VCA in human hepatocarcinoma. Taken together, our results suggest that the VCA, considered as a telomerase-inhibitor, can be envisaged as a candidate for enhancing sensitivity of conventional ***anticancer*** drugs.

L8 ANSWER 3 OF 19 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2001:98463 CAPLUS
DOCUMENT NUMBER: 134:161872
TITLE: Crude extract from Viscum album coloratum, and proteins and lectins isolated therefrom
INVENTOR(S): Kim, Jongbae; Song, Seongkyu; Suh, Byungsun; Lee, Kwanee; Doo, Myoungsool; Kwak, Jinhwan; Song, Byeoungdoo; Yoon, Taekjoon; Kang, Taebong; Park, Choonho
PATENT ASSIGNEE(S): Mistle Biotech Co., Ltd., S. Korea
SOURCE: Eur. Pat. Appl., 62 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1074560	A2	20010207	EP 2000-402168	20000727
EP 1074560	A3	20030102		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

PRIORITY APPLN. INFO.: KR 1999-30638 A 19990727

AB Disclosed is an ext. from Korean mistletoe KM-110, which is of immunity enhancement and activity against tumor metastasis and can be used as an adjuvant material for vaccines applicable for the induction of humoral and cell-mediated immunity. Also disclosed are its fractions, a protein fraction KM-AS, a lectin fraction KML-C, lectin components KML-IIU and KML-IIL, which both are further purified from lectin fraction KML-C, a protein KMHBP which is obtained through heparin binding chromatog. eluting with NaCl from a fraction C-free AS which is a portion of the KM-AS free of KML-C, and a mixt. KM of the KMHBP and the KML-C. They are revealed to their roles in the humoral and cell-mediated immunity enhancement and antitumoral activity.

L8 ANSWER 4 OF 19 MEDLINE DUPLICATE 2
ACCESSION NUMBER: 2001569044 MEDLINE
DOCUMENT NUMBER: 21228093 PubMed ID: 11330665
TITLE: Involvement of caspase-3 in apoptosis induced by Viscum album var. coloratum agglutinin in HL-60 cells.
AUTHOR: Lyu S Y; Park W B; Choi K H; Kim W H
CORPORATE SOURCE: College of Natural Sciences, Seoul Women's University, Korea.
SOURCE: BIOSCIENCE, BIOTECHNOLOGY, AND BIOCHEMISTRY, (2001 Mar) 65 (3) 534-41.
Journal code: 9205717. ISSN: 0916-8451.
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200110
ENTRY DATE: Entered STN: 20011029
Last Updated on STN: 20021218
Entered Medline: 20011025

AB A ***cytotoxic*** ***lectin*** (Viscum album L. coloratum agglutinin, VCA) from ***Korean*** ***mistletoe*** was isolated by affinity chromatography on Sepharose 4B immobilized with asialofetuin. In HL-60 cells, addition of VCA resulted in a dose- and time-dependent growth suppression, morphological changes of apoptotic nuclei, and DNA fragmentation characteristics of apoptosis. To investigate how caspase-3 activation during VCA-induced apoptosis induces cleavages of PARP, the expression of PARP and the pattern of caspase-3 activation in HL-60 cells were investigated. The native and processed PARP forms typically seen in apoptotic cells were observed, and a decrease in expression of the 32-kDa form of caspase-3 in a dose-dependent manner was observed. The VCA-induced apoptosis was significantly inhibited by a caspase-3 specific inhibitor, z-DEVD-FMK, and the PARP processing and caspase-3 activation were also inhibited by the inhibitor. A possible involvement of cell cycle arrest in VCA-induced apoptosis was investigated by flow cytometry and the results suggested that the apoptotic effect of VCA is not involved in the induction of cell cycle arrest.

L8 ANSWER 5 OF 19 MEDLINE DUPLICATE 3
ACCESSION NUMBER: 2002049627 MEDLINE
DOCUMENT NUMBER: 21633322 PubMed ID: 11776761
TITLE: Inhibition of tumor growth and metastasis by Korean mistletoe lectin is associated with apoptosis and antiangiogenesis.
AUTHOR: Park W B; Lyu S Y; Kim J H; Choi S H; Chung H K; Ahn S H; Hong S Y; Yoon T J; Choi M J
CORPORATE SOURCE: College of Natural Science, Seoul Women's University, Seoul 139-774, Korea.. wbpark@swu.ac.kr
SOURCE: CANCER BIOTHERAPY & RADIOPHARMACEUTICALS, (2001 Oct) 16 (5) 439-47.
Journal code: 9605408. ISSN: 1084-9785.

PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Artic (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200206
ENTRY DATE: Entered STN: 20020125
Last Updated on STN: 20021217
Entered Medline: 20020617

AB The mistletoe ***lectins*** are major active components in the extract of European mistletoes that have been widely used in adjuvant chemotherapy of cancer. This study was performed to investigate the mechanism of ***anticancer*** and antimetastatic activity of the purified ***Korean*** ***mistletoe*** ***lectin*** (Viscum album L. coloratum agglutinin, VCA). C57BL6 mice inoculated with B16-BL6 melanoma cells and treated with VCA were assessed for survival and metastasis. The induction of apoptosis of B16-BL6 cells by VCA was investigated by morphological changes, DNA fragmentation characteristics, and cell cycle analysis. The antiangiogenic activity of VCA was also measured by the CAM (choriallantoic membrane) assay. Length of survival of mice was increased and lung metastasis was inhibited by VCA. Treatment of cells with VCA resulted in growth suppression, nuclear morphological changes, DNA fragmentation, and an increased fraction of cells in sub-G1 consistent with apoptosis. Antiangiogenesis of VCA was assessed by CAM assay, where vessel growth induced by fat emulsion was decreased. These results suggest that VCA inhibits tumor growth and metastasis by increasing apoptosis and inhibiting angiogenesis.

L8 ANSWER 6 OF 19 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:212311 CAPLUS
DOCUMENT NUMBER: 137:288564
TITLE: Preliminary toxicity and general pharmacology of KML-IIU, a purified lectin from Korean mistletoe (Viscum album coloratum)
AUTHOR(S): Kang, Tae Bong; Yoon, Taek Joon; Kim, Jong Bae; Song, Seong Kyu; Lee, Kwan Hee; Kwak, Jin-Hwan
CORPORATE SOURCE: School of Bioscience and Food Technology, Handong University, Pohang, Kyung-Buk, 791-940, S. Korea
SOURCE: Yakhak Hoechi (2001), 45(3), 251-257
CODEN: YAHOA3; ISSN: 0513-4234
PUBLISHER: Pharmaceutical Society of Korea
DOCUMENT TYPE: Journal
LANGUAGE: Korean

AB The study was carried out to evaluate the preliminary toxicity and general pharmacol. of KML-IIU, a purified lectin from Korean Mistletoe (Viscum album coloratum). KML-IIU was administered i.v. to ICR mice and Sprague-Dawley rats to investigate the acute toxicity. LD50 values in mice and rats were above 30 .mu.g/kg. KML-IIU had no effects on the general behaviors, acetic acid-induced writhing syndrome, pentobarbital-induced sleeping time, pentylenetetrazole-induced convulsion and the change of body temp. In addn., KML-IIU did not show any effects on digestive system and blood coagulation system.

L8 ANSWER 7 OF 19 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 4
ACCESSION NUMBER: 2001:351132 CAPLUS
DOCUMENT NUMBER: 135:106157
TITLE: Production of monoclonal antibodies specific to Korean mistletoe lectin (KML-C) and their characterization
AUTHOR(S): Yoon, T. J.; Yoo, Y. C.; Kang, T. B.; Kim, S-H.; Kim, K. S.; Kim, J. B.
CORPORATE SOURCE: Institute of Biomedical Research Center, Handong University, S. Korea
SOURCE: Yakhak Hoechi (2001), 45(2), 180-189
CODEN: YAHOA3; ISSN: 0513-4234
PUBLISHER: Pharmaceutical Society of Korea
DOCUMENT TYPE: Journal
LANGUAGE: Korean

AB The authors have reported that water-extd. ***Korean*** ***mistletoe*** (KM-110) had various biol. activities such as ***antitumor*** and immunomodulatory activity, and the ***lectin*** fraction (KML-C) of the ext. was one of the major factors related to its biol. functions. Here, they produced murine monoclonal antibodies (mAb) against KML-C. The mAbs obtained were largely classified into 2 groups

according to specificity to KM[redacted] and ML-I, a ***lectin*** from European mistletoe. One group [redacted] mAbs (9H7-D10 and 3C2-1H4) st[redacted]gly reacted with KML-C, but not ML-I. In contrast, the other group of mAbs (8B11-2C5, 8E12-3E9, and 5E10-F1) reacted with both KML-C and ML-1. The subisotypes of these mAbs were shown to be IgG1 (9H7-1D10, 3C2-1H4, and 8B11-2C5) or IgM (8E12-3E9 and 5E10-F1). To develop an assay system for detn. of the amt. of KML-C, the authors established the sandwich ELISA method using these mAbs and horseradish peroxidase (HRP)-labeled mAbs. In various combinations of the mAbs for coated antibody and detection antibody, the sandwich ELISA quant. detected KML-C, showing the detection limit ranging from 7-5000 ng/mL. The reproducibility of the sandwich ELISA, in which 8E12-3E9 was used for coating antibody and 8B11-2C5-HRP for detection antibody, was 4.59-5.83 in the intra assay, and 3.9-9.4 in the inter assay.

L8 ANSWER 8 OF 19 MEDLINE DUPLICATE 5
ACCESSION NUMBER: 2001636381 MEDLINE
DOCUMENT NUMBER: 21546285 PubMed ID: 11690563
TITLE: Roles of extracellular signal-regulated kinase and p38 mitogen-activated protein kinase in apoptosis of human monoblastic leukemia U937 cells by lectin-II isolated from Korean mistletoe.
AUTHOR: Pae H O; Oh G S; Kim N Y; Shin M K; Lee H S; Yun Y G; Oh H; Kim Y M; Chung H T
CORPORATE SOURCE: Medicinal Resources Research Center, Wonkwang University, Iksan, Chonbug 570-749, South Korea.
SOURCE: IN VITRO & MOLECULAR TOXICOLOGY, (2001 Summer) 14 (2) 99-106.
Journal code: 9808800. ISSN: 1097-9336.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200202
ENTRY DATE: Entered STN: 20011107
Last Updated on STN: 20021217
Entered Medline: 20020205

AB The mitogen-activated protein kinase (MAPK) family members have been implicated in cell survival. We have previously demonstrated that ***cytotoxic*** ***lectin*** -II isolated from ***Korean*** ***mistletoe*** induces apoptotic cell death in the human monoblastic leukemia cell line, U937, via the activation of the stress-activated protein kinases/c-Jun N-terminal kinase (SAPK/JNK). In the present study, the roles of extracellular signal-regulated kinases (ERK1/2) and p38 MAPK in ***lectin*** -II-induced apoptosis have been investigated. Treatment of U937 cells with ***lectin*** -II resulted in apoptotic DNA fragmentation, which was preceded by the activation of ERK1/2, p38 MAPK and SAPK/JNK. This ***lectin*** -II-induced DNA fragmentation was significantly enhanced when ERK1/2 activation was selectively inhibited by PD098059. 12-O-tetradecanoylphorbol-13-acetate, which stimulates ERK activity in U937 cells, markedly reduced ***lectin*** -II-induced DNA fragmentation. Inhibition of p38 MAPK activity with p38-specific inhibitor, SB203580, partially inhibited ***lectin*** -II-induced DNA fragmentation. These results suggest that ERK1/2 and p38 MAPK may have opposite effects on cell survival in response to ***cytotoxic*** mistletoe ***lectin*** -II, which may contribute to the modulation of ***lectin*** -II-mediated ***cytotoxic*** activity.

L8 ANSWER 9 OF 19 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:129598 CAPLUS
DOCUMENT NUMBER: 136:149995
TITLE: New strain of lactobacillus ssp. KY 22704 fermenting mistletoe
INVENTOR(S): Kim, Seong Hun; Baek, Yeong Jin; Lee, Jeong Ryeol; Lee, Jeong Jun; Lee, Jeong Hui; Huh, Cheol Seong
PATENT ASSIGNEE(S): Korea Yakult Co., Ltd., S. Korea
SOURCE: Repub. Korean Kongkae Taeho Kongbo, No pp. given
CODEN: KRXXA7
DOCUMENT TYPE: Patent
LANGUAGE: Korean
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
KR 2000038059	A	20000705	KR 1998-52917	19981203

PRIORITY APPLN. INFO.: KR 1998-52917 19981203

AB New strain of Lactobacillus strain KY 22704 (KFCC-11062) ferments ***Viscum*** ***album*** ***coloratum*** in order to decrease the toxicity of mistletoe on normal cells and increase that of mistletoe on malignant cells. Lactobacillus were isolated from fermented milk products and inoculated in the ext. of mistletoe. The toxicity of fermented product was tested on 3T3 cells and normal cells. Lactobacillus fermented mistletoe ext. demonstrated no toxicity on the normal cell but was ***cytotoxic*** to cancer cells. The cleaned, cut and ground mistletoe was extd. with water and freeze dried. A 1-7% of mistletoe ext. was inoculated with Lactobacillus and incubated for 48-72 h at 30-37 .degree.C. The no. of Lactobacillus reaches at 5.6X108 cfu/mL and the pH of broth is 4.0 after 24 h incubation. The anal. of protein shows that ***lectin*** band is decreased during the incubation.

L8 ANSWER 10 OF 19 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2001:888978 CAPLUS
DOCUMENT NUMBER: 135:368328
TITLE: Nucleotide sequences of lectins fractionated from korean mistletoe(viscumalbum coloratum)
INVENTOR(S): Kim, Jong Bae; Song, Seong Gyu; Seo, Byeong Seon; Lee, Gwan Hee; Do, Myeong Sul; Gwak, Jin Hwan; Yoo, Yeong Chun; Yoon, Taek Jun; Kang, Tae Bong; Park, Chun Ho
PATENT ASSIGNEE(S): S. Korea
SOURCE: Repub. Korean Kongkae Taeho Kongbo, No pp. given CODEN: KRXXA7
DOCUMENT TYPE: Patent
LANGUAGE: Korean
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
KR 2000012147	A	20000225	KR 1999-41288	19990927

PRIORITY APPLN. INFO.: KR 1999-41288 19990927

AB ***Lectins*** from ***Korean*** ***mistletoe*** are purified by chromatog. and monoclonal antibodies are raised to isolate two different ***lectins*** (KML-II U and KML-II L). Gene cloning reveals that two ***lectins*** are different from ***lectins*** purified from european mistletoe. The invention is disclosed nucleotide sequences of ***lectins*** , having mol. wt. 68.8 kDa and 56.4 kDa, purified from ***Korean*** ***mistletoe*** by ammonium sulfate fractionation and Sepharose 4B column chromatog. Two PCR primers(primer 1; 5'-GATIACICATCAIACIGG, and primer 2; 5'-ACIATICGCACIGTIGGTTC) designed from part of amino sequences of purified ***lectins*** amplify about 880 bp PCR product, cloned into pGEMT vector. Nucleotide sequences of two clones are detd. Nucleotide sequences show that isomers exist like ***lectins*** purified from european mistletoe. Purified ***lectins*** increase the immune response of immune system and show higher ***cytotoxic*** effect than that of ***lectins*** from european mistletoe.

L8 ANSWER 11 OF 19 MEDLINE DUPLICATE 6

ACCESSION NUMBER: 2001305198 MEDLINE
DOCUMENT NUMBER: 20555351 PubMed ID: 11105782
TITLE: Potentiation of tumor necrosis factor-alpha-induced apoptosis by mistletoe lectin.
AUTHOR: Pae H O; Seo W G; Oh G S; Shin M K; Lee H S; Lee H S; Kim S B; Chung H T
CORPORATE SOURCE: Department of Microbiology and Immunology, Wonkwang University School of Medicine, Iksan, Korea.
SOURCE: IMMUNOPHARMACOLOGY AND IMMUNOTOXICOLOGY, (2000 Nov) 22 (4) 697-709.
Journal code: 8800150. ISSN: 0892-3973.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals

ENTRY MONTH: 200105
ENTRY DATE: Entered STN: 20[redacted]604
Last Updated on STN: 20021218
Entered Medline: 20010531

AB Mistletoe ***lectins*** (MLs) constitute the active principle in extract preparations from mistletoe, commonly used as immunomodulator in adjuvant tumor therapy. MLs, classified as type II ribosome inactivating proteins, inhibit protein synthesis. Inhibitors of protein synthesis may modify cancer cell response to tumor necrosis factor-alpha (TNF). In the present study, we have hypothesized that the ***anticancer*** efficacy of TNF may be potentiated by MLs. In deed, simultaneous treatment of human cervix carcinoma HeLa or breast carcinoma MCF-7 cells with MLs isolated from European or ***Korean*** ***mistletoe*** rendered them more sensitive to induction of apoptosis by TNF. The mechanism by which MLs amplify the effect of TNF may involve suppression of the survival protein synthesis.

L8 ANSWER 12 OF 19 MEDLINE DUPLICATE 7
ACCESSION NUMBER: 2001276488 MEDLINE
DOCUMENT NUMBER: 21261942 PubMed ID: 11368891
TITLE: Activation of caspase cascades in Korean mistletoe (Viscum album var. coloratum) lectin-II-induced apoptosis of human myeloleukemic U937 cells.
AUTHOR: Kim M S; So H S; Lee K M; Park J S; Lee J H; Moon S K; Ryu D G; Chung S Y; Jung B H; Kim Y K; Moon G; Park R
CORPORATE SOURCE: Department of Microbiology, School of Medicine, Wonkwang University, Iksan, 570-749, Chonbuk, South Korea.
SOURCE: GENERAL PHARMACOLOGY, (2000 May) 34 (5) 349-55.
Journal code: 7602417. ISSN: 0306-3623.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200108
ENTRY DATE: Entered STN: 20010813
Last Updated on STN: 20021218
Entered Medline: 20010809

AB Mistletoe ***lectins*** are of high biological activity and exert ***cytotoxic*** effects. We have previously shown that ***Korean*** ***mistletoe*** , Viscum album var. coloratum, ***lectin*** -II specifically induces apoptotic cell death in cancer cells, not normal lymphocytes. The destructive mechanism by mistletoe ***lectins*** on tumor cells was mediated by activation of c-JUN N-terminal kinase (JNK)/stress-activated protein kinase. Herein, we investigated the involvement of caspase cascade and its proteolytic cleavage effects on biosubstrates of human myeloleukemic U937 cells by D-galactoside and N-acetyl-galactosamine-specific ***Korean*** ***mistletoe*** ***lectin*** -II. Mistletoe ***lectin*** -II induced ladder pattern DNA fragmentation and activation of caspase-3, -8, and -9 of U937 cells, but not caspase-1 protease, in a time- and dose-dependent manner. Consistent with catalytic activation of protease, both poly(ADP-ribose) polymerase (PARP) and protein kinase C-delta (PKC-delta) are also cleaved in mistletoe ***lectin*** -II-treated U937 cells. An inhibitor of caspase-3-like protease, DEVD-CHO peptide, significantly inhibited mistletoe ***lectin*** -II-induced apoptosis, PARP cleavage, and fragmentation of DNA. These results provide the evidence that ***Korean*** ***mistletoe*** ***lectin*** -II induces apoptotic death of U937 cells via activation of caspase cascades.

L8 ANSWER 13 OF 19 MEDLINE DUPLICATE 8
ACCESSION NUMBER: 2001059336 MEDLINE
DOCUMENT NUMBER: 20406564 PubMed ID: 10952032
TITLE: Protein kinase A or C modulates the apoptosis induced by lectin II isolated from Korean mistletoe, Viscum album var. Coloratum, in the human leukemic HL-60 cells.
AUTHOR: Pae H O; Seo W G; Shin M; Lee H S; Lee H S; Kim S B; Chung H T
CORPORATE SOURCE: Department of Microbiology and Immunology, Wonkwang University School of Medicine, Iksan, Chonbug, Korea.
SOURCE: IMMUNOPHARMACOLOGY AND IMMUNOTOXICOLOGY, (2000 May) 22 (2) 279-95.
Journal code: 8800150. ISSN: 0892-3973.

PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200012
ENTRY DATE: Entered STN: 20010322
Last Updated on STN: 20021218
Entered Medline: 20001228

AB Mistletoe ***lectins*** (MLs) are increasingly used as an ***anticancer*** drug in the treatment of human tumors. The ***cytotoxic*** activity of MLs against tumor cells is due to programmed cell death (apoptosis). The up- or down-regulation of protein kinase A (PKA) or C (PKC) is known to be associated with the regulation of drug-induced apoptosis. Previously, we isolated ***cytotoxic*** MLII from the extract of ***Korean*** ***mistletoe*** (Viscum album var. Coloratum) and characterized its biochemical properties. The present study was designed to investigate the role of PKA and PKC in MLII-induced apoptosis. Exposure of human leukemia HL-60 cells to various doses of MLII resulted in apoptosis. However, the treatment of these cells with dibutyl-cyclic AMP (DB-cAMP), PKA activator, or 12-O-tertadecanoyl phorbol 13-acetate (TPA), PKC activator, suppressed MLII-induced apoptosis. Furthermore, KT5720 and staurospoline, PKA and PKC inhibitors, respectively, reversed the suppression by DB-cAMP and TPA in the MLII-induced apoptosis of HL-60 cells. These results suggest that the activation of PKA or PKC was involved in the suppression of MLII-induced apoptosis in HL-60 cells. Collectively, these results indicate that activation of PKA or PKC in HL-60 cells may confer protection against MLII-induced apoptosis.

L8 ANSWER 14 OF 19 MEDLINE DUPLICATE 9
ACCESSION NUMBER: 1999284128 MEDLINE
DOCUMENT NUMBER: 99284128 PubMed ID: 10357236
TITLE: Isolation and characterization of biologically active lectin from Korean mistletoe, Viscum album var. Coloratum.
AUTHOR: Lee H S; Kim Y S; Kim S B; Choi B E; Woo B H; Lee K C
CORPORATE SOURCE: College of Pharmacy, Wonkwang University, Iksan, Korea.. hslee@wonnms.wonkwang.ac.kr
SOURCE: CELLULAR AND MOLECULAR LIFE SCIENCES, (1999 Apr) 55 (4) 679-82.
Journal code: 9705402. ISSN: 1420-682X.
PUB. COUNTRY: Switzerland
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199906
ENTRY DATE: Entered STN: 19990714
Last Updated on STN: 20021218
Entered Medline: 19990629

AB A mistletoe ***lectin*** was isolated from water extracts of ***Korean*** ***mistletoe*** , a subspecies of Viscum album, grown on Quercus mongolica using CM-Sepharose chromatography followed by an affinity chromatography on a concanavalin A-Sepharose column. The compound proved to be a mistletoe ***lectin*** II with D-galactose and N-acetyl-D-galactosamine specificity. Matrix-assisted laser desorption time-of-flight mass spectroscopy showed it to have an average molecular mass of 62.7 kDa and to consist of two subunits of 30.6 kDa and 32.5 kDa. It was a basic protein with isoelectric points of 9.4 and 9.6 by capillary isoelectric focusing and was ***cytotoxic*** to Molt4 cell.

L8 ANSWER 15 OF 19 MEDLINE DUPLICATE 10
ACCESSION NUMBER: 1999321103 MEDLINE
DOCUMENT NUMBER: 99321103 PubMed ID: 10395180
TITLE: Cytotoxic effects of the components in heat-treated mistletoe (Viscum album).
AUTHOR: Park J H; Hyun C K; Shin H K
CORPORATE SOURCE: Institute of Functional Foods and Safety, Handong University, Pohang, Kyunghuk, South Korea.
SOURCE: CANCER LETTERS, (1999 May 24) 139 (2) 207-13.
Journal code: 7600053. ISSN: 0304-3835.
PUB. COUNTRY: Ireland
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English

FILE SEGMENT: Priority Journa
ENTRY MONTH: 199907
ENTRY DATE: Entered STN: 19990806
Last Updated on STN: 20021218
Entered Medline: 19990723

AB Major ***cytotoxic*** components were fractionated from ***Korean*** ***mistletoe*** and the changes of their ***cytotoxic*** effects caused by heat treatment were investigated. The high cytotoxicity of isolated ***lectin*** I completely disappeared by heating for 30 min. The fractions of viscotoxins and alkaloids maintained their activities even after heating for 60 and 180 min, respectively. The alkaloid fraction was more ***cytotoxic*** to tumor MSV cells than to non-tumor A31 cells and the activity pattern was not changed by heat treatment. The possible contributions of alkaloids and viscotoxins to the activities of heat-treated mistletoe extracts such as tea or decoctions are discussed.

L8 ANSWER 16 OF 19 MEDLINE DUPLICATE 11
ACCESSION NUMBER: 1999226918 MEDLINE
DOCUMENT NUMBER: 99226918 PubMed ID: 10211936
TITLE: Lectins isolated from Korean mistletoe (Viscum album coloratum) induce apoptosis in tumor cells.
AUTHOR: Yoon T J; Yoo Y C; Kang T B; Shimazaki K; Song S K; Lee K H; Kim S H; Park C H; Azuma I; Kim J B
CORPORATE SOURCE: Institute for Biomedical Research, Han Dong University, Pohang, Kyungbook, South Korea.
SOURCE: CANCER LETTERS, (1999 Feb 8) 136 (1) 33-40.
Journal code: 7600053. ISSN: 0304-3835.
PUB. COUNTRY: Ireland
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199904
ENTRY DATE: Entered STN: 19990511
Last Updated on STN: 20021218
Entered Medline: 19990429

AB ***Cytotoxic*** ***lectins*** (KML-C) were isolated from an extract of ***Korean*** ***mistletoe*** [Viscum album C. (coloratum)] by affinity chromatography on a hydrolysed Sepharose 4B column, and the chemical and biological properties of KML-C were examined, partly by comparing them with a ***lectin*** (EML-1) from European mistletoe[Viscum album L. (loranthaceae)]. The hemagglutinating activity of KML-C was inhibited by N-acetyl-D-galactosamine and D-galactose at the minimum concentrations of 6.3 and 12.5 microM/ml, respectively. Further biochemical analyses indicated that KML-C consists of four chains (Mr = 27.5, 30, 31 and 32.5 kDa) which, in some of the molecules, are disulfide-linked, and that the chains of KML-C are distributed over a broad range of isoelectric points (pI), 8.0 to 9.0, whereas the range for EML-1 is 6.6-7.0. A difference was also observed between the N-terminal sequences of KML-C and EML-1. The isolated ***lectins*** showed strong cytotoxicity against various human and murine tumor cells, and the ***cytotoxic*** activity of KML-C was higher than that of EML-1. Tumor cells treated with KML-C exhibited typical patterns of apoptotic cell death, such as apparent morphological changes and DNA fragmentation, and its apoptosis-inducing activity was blocked by addition of Zn2+, an inhibitor of Ca2+/Mg2+ -dependent endonucleases, in a dose-dependent manner. These results suggest that KML-C is a novel ***lectin*** related to the cytotoxicity of ***Korean*** ***mistletoe*** , and that its ***cytotoxic*** activity against tumor cells is due to apoptosis mediated by Ca2+/Mg2+ -dependent endonucleases.

L8 ANSWER 17 OF 19 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 96345459 EMBASE
DOCUMENT NUMBER: 1996345459
TITLE: [Substances and in vitro cytotoxicity of an extract made of Viscum album L. spp. coloratum (Korean mistletoe): Consequences for the standardization of mistletoe preparations].
INHALTSSTOFFE UND IN-VITRO-ZYTOTOXIZITAT EINES EXTRAKTES AUS VISCUM ALBUM L. SSP. COLORATUM (KOREANISCHE MISTEL) - KONSEQUENZEN FUR DIE STANDARDISIERUNG VON MISTELPRAPARATEN.
AUTHOR: Choi O.B.; Yoon T.J.; Drees M.; Scheer R.; Kim J.B.
CORPORATE SOURCE: Carl Gustav Carus-Institut, Am Eichhof,D-75223

SOURCE: Niefern-Oschelb[redacted]n, Germany
Zeitschrift fur [redacted]nkologie, (1996) 28/3 (77-81).
ISSN: 1432-2919 CODEN: ZEONFB

COUNTRY: Germany
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 016 Cancer
052 Toxicology
030 Pharmacology
037 Drug Literature Index
LANGUAGE: German
SUMMARY LANGUAGE: German; English

AB Extracts made of fresh ***Korean*** ***mistletoe*** were investigated with regard to their chemical-analytical as well as ***cytotoxic*** properties and compared with extracts of European mistletoe. The mistletoe was harvested in January (host tree: oak). The extract was made from 100 mg plant material per ml. Viscotoxins as well as ***lectins*** were found. Not so much quantitative, but rather qualitative differences to extracts derived from European mistletoe were remarkable. This could be pointed out looking at viscotoxins as well as ***lectins*** . The recently prepared extracts didn't show any ***lectin*** activity when using the hemagglutination test. However, after 3 months storage in a refrigerator (8-10 .degree.C) 10 .mu.g of total ***lectin*** per ml could be detected using the same test procedure. Using the ELISA-test only 3.7 .mu.g of total ***lectin*** per ml were found containing about one tenth of ML 1. The ***lectin*** amount of extracts from European mistletoe (ABNOBAviscum(TM) Quercus) were in the same range, but the dominating components are those of the ML I-group. Further investigations of ***Korean*** ***mistletoes*** concerning characterization of the ***lectins*** and the viscotoxins should be done. Both extracts, those of Korean as well as European mistletoe showed a similar pattern when performing in-vitro-cytotoxicity using 6 human tumor xenografts (i.e. ovarian cancer, small cell and large cell lung carcinoma, colon, renal and melanoma xenografts). The mean IC-70 value of the 100 mg-extract of ***Korean*** ***mistletoe*** was 1.2 .mu.g/ml, that is nearly the same order of magnitude than obtained with extracts of European mistletoes grown on oaks. No correlation between total ***lectin*** amount and cytotoxicity could be found.

L8 ANSWER 18 OF 19 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1989:397726 BIOSIS
DOCUMENT NUMBER: BR37:64374
TITLE: CHARACTERIZATION OF ***CYTOTOXIC*** ***LECTINS*** ISOLATED FROM ***VISCUM*** - ***ALBUM*** - ***COLORATUM*** .
AUTHOR(S): KHWAJA T A; MANJIKIAN S P; CRAMER F
CORPORATE SOURCE: DEP. PATHOL., UNIV. SOUTHERN CALIF. SCH. MED., LOS ANGELES, CALIF. 90033.
SOURCE: EIGHTIETH ANNUAL MEETING OF THE AMERICAN ASSOCIATION FOR CANCER RESEARCH, SAN FRANCISCO, CALIFORNIA, USA, MAY 24-27, 1989. PROC AM ASSOC CANCER RES ANNU MEET, (1989) 30 (0), 576.
CODEN: PAMREA.
DOCUMENT TYPE: Conference
FILE SEGMENT: BR; OLD
LANGUAGE: English

L8 ANSWER 19 OF 19 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 12
ACCESSION NUMBER: 1987:370504 BIOSIS
DOCUMENT NUMBER: BR33:60979
TITLE: ISOLATION OF A ***CYTOTOXIC*** ***LECTIN*** FROM ***VISCUM*** - ***ALBUM*** ***COLORATUM*** .
AUTHOR(S): KHWAJA T A; PENTECOST S; MANJIKIAN S
CORPORATE SOURCE: USC CANCER CENT., UNIV. SOUTHERN CALIF. SCH. MED., LOS ANGELES, CALIF. 90033.
SOURCE: SEVENTY-EIGHTH ANNUAL MEETING OF THE AMERICAN ASSOCIATION FOR CANCER RESEARCH, ATLANTA, GEORGIA, USA, MAY 20-23, 1987. PROC AM ASSOC CANCER RES ANNU MEET, (1987) 28 (0), 303.
CODEN: PAMREA.
DOCUMENT TYPE: Conference
FILE SEGMENT: BR; OLD

LANGUAGE: English

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(FILE 'HOME' ENTERED AT 13:18:59 ON 27 MAR 2003)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT 13:19:22 ON 27 MAR 2003

L1 148687 S LECTIN
L2 114 S KOREAN MISTLETOE
L3 53 S VISCUM ALBUM COLORATUM
L4 121 S L2 OR L3
L5 92 S L1 (P) L4
L6 981504 S ANTITUMOR OR ANTICANCER OR CYTOTOXIC OR ANTINEOPLASTIC
L7 58 S L5 (P) L6
L8 19 DUPLICATE REMOVE L7 (39 DUPLICATES REMOVED)

=> s kml-iiu or kml-iil
L9 3 KML-IIU OR KML-IIL

=> duplicate remove l9
DUPLICATE PREFERENCE IS 'CAPLUS, BIOSIS'
KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n
PROCESSING COMPLETED FOR L9
L10 2 DUPLICATE REMOVE L9 (1 DUPLICATE REMOVED)

=> d l10 1-2 ibib abs

L10 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:98463 CAPLUS
DOCUMENT NUMBER: 134:161872
TITLE: Crude extract from Viscum album coloratum, and proteins and lectins isolated therefrom
INVENTOR(S): Kim, Jongbae; Song, Seongkyu; Suh, Byungsun; Lee, Kwanee; Doo, Myoungsool; Kwak, Jinhwan; Song, Byeoungdoo; Yoon, Taekjoon; Kang, Taebong; Park, Choonho
PATENT ASSIGNEE(S): Mistle Biotech Co., Ltd., S. Korea
SOURCE: Eur. Pat. Appl., 62 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1074560	A2	20010207	EP 2000-402168	20000727
EP 1074560	A3	20030102		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

PRIORITY APPLN. INFO.: KR 1999-30638 A 19990727

AB Disclosed is an ext. from Korean mistletoe KM-110, which is of immunity enhancement and activity against tumor metastasis and can be used as an adjuvant material for vaccines applicable for the induction of humoral and cell-mediated immunity. Also disclosed are its fractions, a protein fraction KM-AS, a lectin fraction KML-C, lectin components ***KML*** - ***IIU*** and ***KML*** - ***IIL*** , which both are further purified from lectin fraction KML-C, a protein KMHBP which is obtained through heparin binding chromatog. eluting with NaCl from a fraction C-free AS which is a portion of the KM-AS free of KML-C, and a mixt. KM of the KMHBP and the KML-C. They are revealed to their roles in the humoral and cell-mediated immunity enhancement and antitumoral activity.

L10 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 1
ACCESSION NUMBER: 2002:212311 CAPLUS
DOCUMENT NUMBER: 137:288564
TITLE: Preliminary toxicity and general pharmacology of ***KML*** - ***IIU*** , a purified lectin from Korean mistletoe (Viscum album coloratum)
AUTHOR(S): Kang, Tae Bong; Yoon, Taek Joon; Kim, Jong Bae; Song,

CORPORATE SOURCE: Seong Kyu; [redacted]e, Kwan Hee; Kwak, Jin-Hwan
School of [redacted]oscience and Food Technology, P[redacted]ong University, Pohang, Kyung-Buk, 791-940, S. Korea

SOURCE: Yakhak Hoechi (2001), 45(3), 251-257
CODEN: YAHOA3; ISSN: 0513-4234
PUBLISHER: Pharmaceutical Society of Korea
DOCUMENT TYPE: Journal
LANGUAGE: Korean

AB The study was carried out to evaluate the preliminary toxicity and general pharmacol. of ***KML*** - ***IIU*** , a purified lectin from Korean Mistletoe (Viscum album coloratum). ***KML*** - ***IIU*** was administered i.v. to ICR mice and Sprague-Dawley rats to investigate the acute toxicity. LD50 values in mice and rats were above 30 .mu.g/kg. ***KML*** - ***IIU*** had no effects on the general behaviors, acetic acid-induced writhing syndrome, pentobarbital-induced sleeping time, pentylenetetrazole-induced convulsion and the change of body temp. In addn., ***KML*** - ***IIU*** did not show any effects on digestive system and blood coagulation system.

=> d his

(FILE 'HOME' ENTERED AT 13:18:59 ON 27 MAR 2003)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT 13:19:22 ON 27 MAR 2003

L1	148687	S LECTIN
L2	114	S KOREAN MISTLETOE
L3	53	S VISCUM ALBUM COLORATUM
L4	121	S L2 OR L3
L5	92	S L1 (P) L4
L6	981504	S ANTITUMOR OR ANTICANCER OR CYTOTOXIC OR ANTINEOPLASTIC
L7	58	S L5 (P) L6
L8	19	DUPLICATE REMOVE L7 (39 DUPLICATES REMOVED)
L9	3	S KML-IIU OR KML-IIL
L10	2	DUPLICATE REMOVE L9 (1 DUPLICATE REMOVED)

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	56.89	57.10

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-5.21	-5.21

FILE 'STNGUIDE' ENTERED AT 13:24:13 ON 27 MAR 2003

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Mar 7, 2003 (20030307/UP).

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.12	57.22

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-5.21

STN INTERNATIONAL LOGOFF AT 13:25:15 ON 27 MAR 2003